

**Respiratory Qualitative Face Fit Test Kit - QLTK1**

**Contents - Face Fit Test Hood, 2 x Nebulisers, Sensitivity Test Solution [12 x 2.5ml ampoules] [A], Test Solution [12 x 2.5ml ampoules] [B], USB**

Instructions for use - Contains the latest HSE INDG479 (rev1) guidance.

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# Qualitative Face Fit Test Kit

## Introduction

### Why carry out face fit testing?

Over the years, awareness to Occupational Health has greatly improved. Misuse, modification and the poor fitting of Respiratory Protective Equipment (RPE) has been fairly commonplace. From facial hair interfering with the seal on the face to tearing off the bottom strap of the respirator, to burning holes in the filter, allowing the wearer to smoke through it, has been common practice.

Legislation, through the COSHH Approved Code of Practice (ACoP) has been put in place in an attempt to eliminate this abuse and improve awareness even further.

This Face Fit Test Kit has been developed using the guidance as laid down in HSE INDG479 (rev1). The Health and Safety Executive (HSE) suggest that the Qualitative Face Fit Test method can be conducted on 'tight fitting' FFP1 NR, FFP2 NR and FFP3 NR (Disposables) and negative pressure half mask respirators.

RPE fit testing should be conducted by a competent person. Competence can be demonstrated in a number of ways. Good practise would be achieving the '**Fit2Fit Fit Test Providers Accreditation Scheme**'. This scheme has been developed by the British Safety Industry Federation (BSIF) together with industry stakeholders and is supported by HSE. The scheme is not compulsory and employers are free to take other action to comply with the law. One way employers can demonstrate good practice is by ensuring that the fit tester is appropriately accredited, for the type of service they offer, by the Fit2Fit scheme. Further details on the scheme can be found at [www.fit2fit.org](http://www.fit2fit.org) (HSE INDG479 (rev1)).

### How does it work?

The nebuliser produces a mist measuring approximately 5 microns. If the wearer tastes the solution during a fit test, the seal has been broken and the wearer has failed the test. If the wearer does not taste the solution during the fit test, the mask fits and this is classed as a pass.

### Instructions for use

- Precautions:**
- i) It is important to tell staff not to eat, drink or smoke one hour prior to a test.
  - ii) It is important to clearly mark the nebulisers to avoid them being switched during testing.
  - iii) Fill both nebulisers prior to commencement of face fit test.
  - iv) After use, wash nebulisers in clean water.

**Continuity:** The fit test should be conducted as a continuous test with sufficient time between the Sensitivity Test and the Fit Test to allow the wearer to clear their palate. Should, for practical reasons, a fit tester not wish to continue on directly from the Sensitivity Test to the Fit Test, the wearer should still refrain from smoking, eating or drinking, except for water, during that period. Conducting the two parts of the QLFT on separate days is therefore not an option.

**Warning:** Make sure that the correct solution is used during the sensitivity test. Ensure that the nebuliser is not clogged. Regular checks should be made, ensuring that the nebuliser has not clogged. If the nebuliser becomes clogged during the test, the test is invalid and the subject should be re-tested no less than thirty minutes later.

**Limitations of Use:** Only disposable respirators and negative pressure half masks can be tested using this type of Face Fit Test Kit.

## Sensitivity Test



1. Take the 'Protective Crushing Sleeve' and one Ampoule from box **A**, which has a **RED** label marked '**SENSITIVITY Solution**'.
2. Slide the sleeve all the way onto the ampoule, (See Diagram 1).



3. Holding the ampoule in an upright position, with the fill tip pointed upwards, squeeze the ampoule towards the top of the tube to break the internal glass ampoule. A cracking sound is heard when doing this. **DO NOT BEND THE TUBE**. (See Diagrams 2 & 3).

CORRECT

WRONG



4. Remove the white plug from the nebulizer marked **A**. Insert the ampoule tip into the opening and carefully squeeze the entire contents of the ampoule into the nebulizer. **[WARNING: Do not remove the tip of the ampoule]**. (See Diagrams 4 & 5).

**[Note: It is recommended that the white plug be replaced back on the nebulizer until the test is ready to be performed.]**



5. Once the ampoule solution has been drained into the nebulizer, the 'Protective Crushing Sleeve' should be returned to box **A** and the empty ampoule safely disposed of.
6. The test subject is required to don the hood without a respirator.
7. The visor of the hood should be positioned about six inches from the face with the hole in line with the mouth.
8. Remove both plugs from nebuliser and insert nozzle into the hole in the visor of the hood. The nebuliser should be used in the upright position.
9. During the Sensitivity Test, the wearer should breathe through their mouth.

10. Squeeze the bulb of the nebuliser up to 10 times. The bulb should fully collapse and allow full expansion before next squeeze is applied. If the test subject tastes the solution, their taste sensitivity has been established and the number 10 should be logged on the employee record. If after 10 squeezes, the test subject has been unable to taste the solution, a further 10 squeezes is required. If detected between 11-20 squeezes, the number 20 should be logged on the employee record. If after 20 squeezes the test subject cannot taste the solution a further 10 squeezes is required. If detected between 21-30 squeezes the number 30 should be logged on the employee record. If the test subject is unable to taste after 30 squeezes then an alternative fit test must be provided.
11. If the sensitivity test has been successfully conducted, the test subject should drink a glass of still water to clear the palate and wipe face with a dry tissue.



1. Take the 'Protective Crushing Sleeve' and one Ampoule from box **B**, which has a **BLUE** label marked '**FIT TEST Solution**'.
2. Slide the sleeve all the way onto the ampoule, (See Diagram 1).



Diagram 1

3. Holding the ampoule in an upright position, with the fill tip pointed upwards, squeeze the ampoule towards the top of the tube to break the internal glass ampoule. A cracking sound is heard when doing this. **DO NOT BEND THE TUBE**. (See Diagrams 2 & 3).

**CORRECT**



Diagram 2

**WRONG**



Diagram 3

4. Remove the white plug from the nebulizer marked **B**. Insert the ampoule tip into the opening and carefully squeeze the entire contents of the ampoule into the nebulizer. **WARNING**: Do not remove the tip of the ampoule]. (See Diagrams 4 & 5).

**[Note:** It is recommended that the white plug be replaced back on the nebulizer until the test is ready to be performed.]



Diagram 4



Diagram 5

5. Once the ampoule solution has been drained into the nebulizer, the 'Protective Crushing Sleeve' should be returned to box **B** and the empty ampoule safely disposed of.
6. Ensure the sensitivity solution is no longer present on the palette.
7. The test subject should fit the respirator and check the seal using the manufacturers fitting instructions.
8. Other PPE required which may affect the seal of the respirator, should be worn during the test.
9. The test subject should then don the hood as indicated in the Sensitivity Test.
10. As in the Sensitivity Test, remove both plugs on the nebuliser and insert the nozzle into the hole in the hood. The nebuliser should be used in an upright position.

11. Prior to starting the first exercise, apply the number of squeezes of the test solution logged in the sensitivity test into the hood. Start the test immediately after initial number of squeezes.
12. During the fit test the wearer should breathe through their mouth.
13. When conducting the fit test the nebuliser should not be pointing directly at the filter.
14. To ensure that the concentration of the Solution is adequate, use the amount of squeezes logged in the Sensitivity Test (10, 20 or 30) for each exercise during the test.
15. Each of the seven exercises should last for one minute. i.e. If the Test Subject achieved a score of 10 in the Sensitivity Test, the bulb should be squeezed 10 times for each exercise, with half the required amount every 30 seconds.
16. The Test Subject should then perform the seven exercises and the results should be logged. Unless otherwise stated, the Test Subject should not speak. If anything other than indicated in test occurs, the test should be stopped and the Test Subject should wait for a minimum of one hour before being re-tested.

Each exercise should be conducted for a duration of **1 minute**.

The exercises are as follows:

- i) **NORMAL BREATHING** - the wearer should stand still and breathe normally without talking.
- ii) **DEEP BREATHING** - the wearer should stand still and breathe deeply. Care should be taken during this exercise ensuring the wearer does not hyperventilate.
- iii) **TURNING HEAD SIDE TO SIDE** - the wearer should turn their head slowly from side to side and breathe normally (approximately 15-20 times).
- iv) **MOVING HEAD UP AND DOWN** - the wearer should move the head slowly up and down and breathe normally (approximately 15-20 times).
- v) **TALKING** - the wearer should talk out loud enough so as to be heard and either count backwards from 100 or recite a rehearsed piece of prose. The following passage can be used during this exercise:

### Rainbow Passage

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colours. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.

- vi) **BENDING OVER** - the wearer should stand and bend at the waist, as if to touch their toes and then return to an upright position. Repeat approximately 10-15 times per minute.
- vii) **NORMAL BREATHING** - the wearer should stand still and breathe normally without talking.

At the end of the test it is suggested that the wearer breaks the seal to determine the fit. This can be achieved by asking them to put their hand inside the hood before the hood is removed and pulling the respirator away from their face. Although this is not part of the HSE INDG479 (rev1) guidelines it is recognised by HSE as being good practice.

The test should be stopped if the wearer tastes the Fit Test B solution during any exercise and the wearer is required to wait a minimum of 60 minutes before the fit test can be repeated in its entirety. A 'fail' should be recorded on the employee record and the test subject should make the necessary adjustments according to the manufacturers fitting instructions. If the fit test has been stopped and recorded as a fail, a repeat fit test including the sensitivity test is required. Ensure that the wearer has not had anything to eat, drink (other than plain water) or smoked prior to a retest.

If the Test Subject fails the exercise a second time the subject may require a different model or size and should be re-tested the same way.

A mask that does not fit should not be worn as it is not likely to offer the required protection. A suitable mask that has achieved fit test pass should be worn.

It is good practice to look for obvious reasons why the fit test may have failed.

If the test subject fails to detect the Fit Test B solution at the end of the test, the test has been successful and a pass should be logged on the employee record.

1. Fit testing should be conducted by a competent person.
2. Explain the purpose of the test to the test subject and ensure they understand the results of the test.
3. Regularly check fit test equipment during the fit test to ensure that the nebuliser is not clogged.
4. Examine respirator prior to testing. Face pieces other than disposables, should be properly inspected and maintained in accordance with the manufacturer's instructions.
5. Instruct the wearer in the test exercises.
6. Ensure the wearer is medically fit to wear RPE.
7. The wearer should don the mask as directed by the manufacturer 'Instructions for Use Sheet' which must be supplied by the manufacturer. If instruction/training is required it should be noted and logged.
8. The test should only be conducted after the wearer has worn the respirator for a minimum of 5 minutes prior to the test to allow the wearer to make any necessary adjustments. A mirror should be made available to assist the wearer.
9. When assisting in respirator selection, the wearer should be correctly instructed in the fitting according to the manufacturer's instructions. A mirror should be made available to assist the wearer.
10. A fit test **should not** be conducted if facial hair interferes with the seal of the mask, i.e. stubble, beard, sideburns or moustache.
11. The wearer should be observed at all times through the test. If the wearer coughs or sneezes during the test, the test will more than likely require to be repeated.
12. If the test fails, you must determine the appropriate action to take.
  - a) Was the face piece properly fitted? Do they require additional training?
  - b) Was hair trapped inside the face piece?
  - c) Did they smoke, eat or drink prior to the test without informing you?
  - d) Is there something unusual about the persons face features, which would make fitting difficult?
  - e) Should a different model be made available?

In any case the test should be repeated.

It is important that the results of the test are discussed with the wearer. If the wearer achieves a good fit, they should be encouraged to fit the respirator the same way at all times. If the wearer fails the test, you must be aware of the sensitivity of the fail. The employer may wish to seek medical advice.

Once any Test Subject has passed a Qualitative Face Fit Test, the employer must log the pass on the employee record and keep the record of the pass for a minimum of 5 years.

The Test Subject is only required to be retested if:

- a) Company Policy
- b) They significantly gain or lose weight;
- c) They undergo any substantial dental treatment;
- d) They develop any facial changes (scars etc or anything else which may affect the seal)
- e) RPE is changed

It is good practice to have a system in place to ensure repeat fit testing of RPE is carried out on a regular basis (HSE INDG479 (rev1)).

If an employee is required to use more than one type of respirator applicable to this test procedure in their duties, each type of respirator must be tested.

13. When informing the wearer of the fit test results, i.e. a pass or a fail, it is advisable that the results are not given to the wearer without explanation. It can result in the wearer being over-confident in the device causing them to be less careful when they don the RPE in the workplace.
14. The assessor should also be aware of the sensitive nature of reporting a fail, especially if the wearer has been wearing the device in a sensitive area such as asbestos or similar hazardous areas for a period of time. A procedure for consultation should be in place prior to fit testing being carried out. The information should be logged on the individual's health records and arrangements may be considered for medical advice.
15. Although training in the correct use, donning and maintenance of the respirator is not part of the fit test, the fit tester should be able to recognise these aspects and be able to instruct and train together with advising on any other relevant information.

## Directions for the Test Subject

(As instructed in HSE INDG479 (rev1))

1. The person carrying out the test will explain to you what a fit test is and why you are being fit tested.
2. You will be asked to refrain from smoking for at least one hour prior to the fit test. You will also be asked not to drink or eat for at least 15 minutes prior to the test. It is suggested to ask the subject not to eat, drink or smoke for one hour prior to a test.
3. You are required to be clean-shaven for this type of test. A good face seal can only be achieved on a clean-shaven face. This rule also applies to the normal work place. If you are unable to be clean-shaven for an unavoidable reason, then your employer should either consider a loose fitting device or make alternative arrangements so that the risks to your health is either prevented or adequately controlled.
4. You should be able to fit the respirator the way you have been trained and without the aid of the assessor. You should also know how to perform a pre-use fit check.
5. During the fit test you will be asked to perform certain exercises. These are designed to emulate your normal working environment. You should also wear any other PPE normally worn near the breathing zone, which may affect the seal of the respirator. You should inform the assessor of any medical conditions you might have which would prevent you from carrying out the exercises.
6. You are required to be fit tested on your own respirator. If the respirator is disposable, then the same make and size is required to be tested. If, during the course of your work, you are required to use more than one type of respirator, both types are required to be tested.
7. At the end of the test you will be informed of whether your respirator passed or failed. A pass means that the type provided is suitable for your use and you may ask for a copy of the report, which you should retain. If you change your employer, you may take the copy of the report with you. This would mean that you would not require to be re-tested on that device, providing your face features had not substantially altered, i.e. no extensive dental treatment had been carried out or your weight had not significantly altered either up or down. A fail indicates that your face piece does not fit you properly. You will be asked to be re-tested and wait for at least ½ hour before you can be re-tested. You will be asked to carry out the same procedure you were asked to carry out prior to the initial test. You may drink plain water. If the test still fails, you are required to be tested on a respirator meeting the same standard as the respirator you normally wear or the same respirator type of a different size.
8. Your employer is responsible for the cost of the face fit test.

<p>Company: <input style="width: 95%;" type="text"/></p> <p>Address: <input style="width: 95%;" type="text"/></p> <p>City/Town: <input style="width: 95%;" type="text"/></p> <p>Postcode: <input style="width: 95%;" type="text"/></p> <p>Employee Name: <input style="width: 95%;" type="text"/></p> <p>Assessor Name: <input style="width: 95%;" type="text"/></p>	<p style="text-align: center;"><b><u>Mask Details</u></b></p> <p>Make: <input style="width: 95%;" type="text"/></p> <p>Model: <input style="width: 95%;" type="text"/></p> <p style="text-align: center;"><i>(circle as appropriate)</i></p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="width: 20%;">Dust</td> <td style="width: 20%;">Mist</td> <td style="width: 20%;">Fume</td> <td style="width: 20%;">Gas</td> <td style="width: 20%;">Vapour</td> </tr> </table> <p>Ownership: <input style="width: 95%;" type="text"/></p> <p>Condition: <input style="width: 95%;" type="text"/></p>	Dust	Mist	Fume	Gas	Vapour																																				
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